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AMENDMENTS IN THE CLAIMS:

There are no amendments to the claims. For convenience, the pending claims are provided below.

1. (Previously Presented) An optical semiconductor device comprising:

an active region; and

a p-doped cladding region disposed on one side of the active region;

wherein an electron-reflecting barrier is provided between the cladding region and the active region for reflecting both Γ-electrons and X-electrons, the electron-reflecting barrier providing a greater potential barrier to Γ-electrons than the p-doped cladding region,

wherein the electron-reflecting barrier comprises a first electron-reflecting layer for reflecting Γ-electrons and a second electron-reflecting layer for reflecting X-electrons.

2. (Canceled)

3. (Original) A device according to claim 1, wherein at least one of the electron-reflecting layers is a strained layer.

4. (Original) A device according to claim 3, wherein one of the electron-reflecting layers is in a state of compressive strain and the other of the electron-reflecting layers is in a state of tensile strain.

5. (Original) A device according to claim 1, wherein the device is a light-emitting diode.

6. (Original) A device according to claim 1, wherein the device is a laser device.

7. (Original) A device according to claim 6, wherein the device is a separate confinement heterostructure laser device comprising an optical guiding region, the active region being disposed within the optical guiding region.

8. (Previously Presented) A device according to claim 1, wherein the layer for reflecting Γ-electrons is disposed between the optical guiding region and the layer for reflecting x-electrons.

9. (Original) A device according to claim 8, wherein the Γ-conduction band of the optical guiding region is substantially degenerate with the x-conduction band of the layer for reflecting Γ-electrons.

10. (Previously Presented) A device according to claim 1, wherein the layer for reflecting Γ-electrons is disposed between the layer for reflecting x-electrons and the p-doped cladding region.

11. (Original) A device according to claim 1, wherein the electron-reflecting barrier comprises a plurality of first electron-reflecting layers for reflecting Γ-electrons and a plurality of second electron-reflecting layers for reflecting x-electrons.

12. (Original) A device according to claim 11, wherein the electron-reflecting barrier is a superlattice structure.

13. (Previously Presented) A device according to claim 1, wherein the device is fabricated in the (Al, Ga, In)P system, the layer for reflecting Γ-electrons is made from a material selected from the group consisting of AlP and GaP, and the layer for reflecting x-electrons is made from InP.

14. (Original) A device according to claim 11, wherein the device is fabricated in the (Al, Ga, In)P system, each layer for reflecting Γ-electrons is made of a

material selected from the group consisting of AlP and GaP, and the layer for reflecting x-electrons is made from InP.

15. (Original) A device according to claim 9, wherein the layer for reflecting Γ-electrons is AlP and the optical guiding region is $(Al_{0.3}Ga_{0.7})_{0.52}In_{0.48}P$.

16. (Original) A device according to claim 13, wherein the thickness of each of the electron-reflecting layers is 16Å or less.

17. (Original) A device according to claim 1, wherein at least one of the electron-reflecting layers is p-doped.

18. (Original) A device according to claim 13, wherein the first electron-reflecting layer contains indium.

19. (Original) A device according to claim 7, wherein the electron-reflecting barrier is disposed between the optical guiding region and the p-doped cladding region.

20. (Previously Presented) An optical semiconductor device comprising:

an optical guiding region;

an active region having at least one energy well, said active region being disposed in said optical guiding region; and

n-doped and p-doped cladding regions disposed on opposite sides of the optical guiding region;

wherein an electron-reflecting layer for reflecting Γ-electrons is provided between the p-doped cladding region and the active region; and

wherein the electron-reflecting layer contacts with the optical guiding region so that the Γ-conduction band of the optical guiding region is substantially degenerate with the X-conduction band of the electron-reflecting layer, and

the electron-reflecting layer is formed of AlP.

21. (Previously Presented) A device according to claim 20, wherein the optical guiding region is formed of $(Al_{0.3}Ga_{0.7})_{0.52}In_{0.48}P$.

22. (Original) A device according to claim 20, wherein the electron-reflecting layer is p-doped.

23. (Original) A device according to claim 20, wherein the electron-reflecting layer is disposed between the optical guiding region and the p-doped cladding region.

24. (Original) A device according to claim 20, wherein the device is a separate confinement heterostructure laser device.

25-28. (Canceled)